

20050420.ba v03\_n794.bam.20050420

>From ???@??? Wed Apr 20 13:05:15 2005 -0500  
Date: Wed, 20 Apr 2005 13:04:41 CDT  
From: Old Tube Radios <boatanchors@theporch.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: BOATANCHORS digest 3794  
Message-Id: <20050420180442.03A8540919@srvr1.theporch.com>

### BOATANCHORS Digest 3794

Topics covered in this issue include:

- 1) Re: A note on solid state relays  
by Henry van Cleef <vancleef@eskimo.com>
- 2) Re: A note on solid state relays  
by "Brian Clarke" <brianclarke01@optusnet.com.au>
- 3) RE: A note on solid state relays  
by Morris Odell <morriso@vifm.org>
- 4) RE: A note on solid state relays  
by "Brian Goldsmith" <brian.goldsmith@echo1.com.au>
- 5) Re: A note on solid state relays  
by "Tom Rauch" <w8ji@contesting.com>
- 6) Re: A note on solid state relays  
by "Tom Rauch" <w8ji@contesting.com>
- 7) RE: A note on solid state relays  
by Morris Odell <morriso@vifm.org>
- 8) Re: A note on solid state relays  
by "Tom Rauch" <w8ji@contesting.com>
- 9) Boatanchor Keyer  
by "Mark Shaum" <k9tr@dtnspeed.net>
- 10) Keyer Chip Located  
by "Mark Shaum" <k9tr@dtnspeed.net>
- 11) SCR-274N Gets "15 Minutes of Fame"  
by David Stinson <arc5@ix.netcom.com>
- 12) Up/down control for electronics  
by "Herbert M. Rosenthal" <herbrose@comcast.net>
- 13) Re: Up/down control for electronics  
by Brian K Harris <brian.k.harris@philips.com>
- 14) RE: Up/down control for electronics  
by "Bill Hawkins" <bill@iaxs.net>
- 15) RE: Up/down control for electronics  
by Morris Odell <morriso@vifm.org>
- 16) Re: A note on solid state relays  
by "Arden Allen" <gumbear@pacbell.net>
- 17) FS: Old B&K Model 440 Cathode Rejuvenator Tester (CRT)  
by Al Schapira <a.schapira@worldnet.att.net>

-----  
From: Henry van Cleef <vancleef@eskimo.com>  
Message-Id: <200504190606.XAA29996@eskimo.com>  
Subject: Re: A note on solid state relays  
To: Old Tube Radios <boatanchors@theporch.com>  
Date: Tue, 19 Apr 2005 00:06:10 -0600 (MDT)  
Cc: boatanchors@theporch.com (Old Tube Radios)  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

The esteemed Brian Clarke has said:

>  
> Hi Tom,  
>  
> What makes a transformer inductive? It's only inductive when it's not=20  
> a transformer, ie, when it has no load or its secondaries are open=20  
> circuit. If the transformer is properly loaded, even at turn on, it =  
> should=20  
> appear as a resistor.  
>  
> 73 de Brian, VK2GCE.  
> Tom got too excited about:  
>

Some years ago, when we were dealing with the UPS strategy for the Enroute Air Traffic Control System, one of the questions we explored was the maximum inrush current that could be experienced, and I set up a rather elaborate series of tests to get the number. The iron in the transformers under test had fairly square B-H loops with a wide hysteresis, so would stay magnetized when power was removed.

Worst case was when the transformer had been turned off at peak magnetisation, and was turned back on at the base of the same direction cycle. In that case, no inductance was presented, and the peak current for one half cycle was limited by the DC resistance of the winding and the source impedance of the supply. The following half cycle showed normal inductance, and the current peak in the next same-direction half-cycle was high, wiggling down over about 3-5 cycles---an essential degaussing response. However, the only serious peak was in the first half cycle.

The actual energy content of the first peak current half cycle (8 milliseconds wide at the base, on a 60 Hz system) was not high enough to damage anything. While some of the current numbers we looked at were impressive, there still were not enough watt-seconds to get much heating. Remember that heat is the issue, and everything has thermal inertia.

Note that the supply impedance was involved. That means that a six-foot length of #18 zip cord would have a significant effect on the one-half-cycle maximum peak current that could be experienced.

Hank

--

Hank van Cleef (vancleef@eskimo.com, hvanclee@nyx.net)  
1986 420SEL "A stranger in paradise" (Fremont Co. Wyoming)  
1986 GMC 1500 6.2 diesel pickup "Seen one, seen them all"

-----  
Message-ID: <00e501c544a9\$95d42fc0\$0404a8c0@brian>  
From: "Brian Clarke" <brianclarke01@optusnet.com.au>  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: "Old Tube Radios" <boatanchors@theporch.com>  
Subject: Re: A note on solid state relays  
Date: Tue, 19 Apr 2005 16:32:38 +1000  
MIME-Version: 1.0  
Content-Type: multipart/alternative;  
boundary="-----=\_NextPart\_000\_00E2\_01C544FD.6662E8E0"

This is a multi-part message in MIME format.

-----=\_NextPart\_000\_00E2\_01C544FD.6662E8E0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: quoted-printable

Hi Hank,

That's really interesting. How big were these UPSs? Without a size, 6'=20 of #18 zipcord means little.

I would have thought that remanence would have been more of a=20 problem than the shape of the B-H curve. The area of the B-H curve is=20 really about the amount of heating loss during operation, isn't it?

73 de Brian.

-----=\_NextPart\_000\_00E2\_01C544FD.6662E8E0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

\* \* \* \* \*  
\* ---REMAINDER OF MESSAGE TRUNCATED--- \*  
\* This post contains a forbidden message format \*  
\* (such as an attached file, a v-card, HTML formatting) \*  
\* Mail Lists at theporch.com only accept PLAIN TEXT \*

\* If your postings display this message your mail program \*  
\* is not set to send PLAIN TEXT ONLY and needs adjusting \*  
\* \* \* \* \*

-----=\_NextPart\_000\_00E2\_01C544FD.6662E8E0--

-----  
Date: Tue, 19 Apr 2005 17:18:10 +1000  
From: Morris Odell <morriso@vifm.org>  
Subject: RE: A note on solid state relays  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-id: <D02380C06383C847B2282343465930BE02AD72@my.vifp.monash.edu.au>  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii  
Content-transfer-encoding: 7BIT  
content-class: urn:content-classes:message

> -----Original Message-----  
> From: Brian Clarke

> What makes a transformer inductive? It's only inductive when it's not  
> a transformer, ie, when it has no load or its secondaries are open  
> circuit. If the transformer is properly loaded, even at turn  
> on, it should  
> appear as a resistor.

While it's quite true that a perfect transformer looks like a resistance (with a resistive load), in the real world there are some imperfections that give rise to transient behaviour. A transient high inrush current can occur at switch on depending on when in the cycle the contacts close. We have all heard the "thump" when a transformer is first energised across the line. Under some circumstances the inrush current is only limited by the winding resistance. There is also leakage inductance which results in reactive behaviour of the transformer although I agree that if properly designed and loaded it shouldn't be significant under steady state conditions.

Morris

>  
> 73 de Brian, VK2GCE.  
> Tom got too excited about:  
>  
> Having no contacts to pit is certainly a good thing, but I

> wouldn't get too excited about the zero crossing turn on  
> with an inductive load.  
>

-----  
From: "Brian Goldsmith" <brian.goldsmith@echo1.com.au>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: RE: A note on solid state relays  
Date: Tue, 19 Apr 2005 18:56:09 +1000  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="us-ascii"  
Content-Transfer-Encoding: 7bit  
Message-Id: <20050419090254.6CD2B40765@srvr1.theporch.com>

-----Original Message-----  
From: Morris Odell

Brian Clarke wrote:-

> What makes a transformer inductive? It's only inductive when it's not  
> a transformer, ie, when it has no load or its secondaries are open  
> circuit. If the transformer is properly loaded, even at turn  
> on, it should  
> appear as a resistor.

While it's quite true that a perfect transformer looks like a resistance (with a resistive load), in the real world there are some imperfections that give rise to transient behaviour. A transient high inrush current can occur at switch on depending on when in the cycle the contacts close. We have all heard the "thump" when a transformer is first energised across the line. Under some circumstances the inrush current is only limited by the winding resistance.

\*\*\*\* The 50% point of a rising wave, (either 50 or 60 Hz) is considered to be the most onerous point of make on for many tests related to HRC (High Rupturing Capacity) fuse link testing, particularly in relation to moderate power factor circuits. I have no doubt that if the point of make on just happened to be this magic figure, then the inrush currents of a non resistively (or non linearly) loaded transformer can be quite high. There is also the possible problem of assymetric inrush currents (effectively a DC inrush current which will die away assymmetrically in a small number of cycles), this DC current adds arithmetically to the peak AC current, the magnitude obviously depends on many of the circuit parameters.

Brian Goldsmith.

-----  
Message-ID: <001d01c544c8\$7a4de380\$6401a8c0@akorn.net>  
From: "Tom Rauch" <w8ji@contesting.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: A note on solid state relays  
Date: Tue, 19 Apr 2005 06:13:48 -0400  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

> While it's quite true that a perfect transformer looks  
like a resistance  
> (with a resistive load), in the real world there are some  
imperfections  
> that give rise to transient behaviour. A transient high  
inrush current  
> can occur at switch on depending on when in the cycle the  
contacts  
> close. We have all heard the "thump" when a transformer is  
first  
> energised across the line. Under some circumstances the  
inrush current  
> is only limited by the winding resistance.

The thump you hear is the result of dozens of cycles of high  
current, and often related directly to flux leakage in  
transformers (and especially chokes with air gaps) rather  
than any actual damaging surge. We aren't "charging" the  
transformer, rather we are charging some capacitors  
following the transformer (and heating some low resistance  
filaments) and the charging current often saturates chokes.  
None of that is a first cycle starting point problem cured  
by starting at zero.

You'd have to bring the supply up slowly through dozens of  
cycles to reduce "stress".

Now if we were dumping the power mains directly through a  
rectifier into a capacitor, the surge might eat up switches  
and zero crossing start might be good. I wouldn't worry  
about it with a transformer and especially a choke input  
supply.

One amateur amplifier manufacturer uses a zero-crossing

switch on amplifiers thinking he somehow reduces surge currents. He obviously never measured inrush current.

73 Tom

-----  
Message-ID: <003f01c544c9\$4a9dd4a0\$6401a8c0@akorn.net>  
From: "Tom Rauch" <w8ji@contesting.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: A note on solid state relays  
Date: Tue, 19 Apr 2005 06:19:37 -0400  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

What makes a transformer inductive? It's only inductive when it's not a transformer, ie, when it has no load or its secondaries are open circuit. If the transformer is properly loaded, even at turn on, it should appear as a resistor.>>

I haven't found a small transformer supply that has zero power factor yet Brian. Most have current lagging voltage, especially at high loads like start up.

So much for perfect resistances.

73 Tom

-----  
Date: Tue, 19 Apr 2005 22:57:58 +1000  
From: Morris Odell <morriso@vifm.org>  
Subject: RE: A note on solid state relays  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-id: <D02380C06383C847B2282343465930BE05CD05@my.vifp.monash.edu.au>  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii  
Content-transfer-encoding: 7BIT  
content-class: urn:content-classes:message

-----Original Message-----  
From: Tom Rauch

I said:

> While it's quite true that a perfect transformer looks like a resistance  
> (with a resistive load), in the real world there are some imperfections  
> that give rise to transient behaviour. A transient high inrush current  
> can occur at switch on depending on when in the cycle the contacts  
> close. We have all heard the "thump" when a transformer is first  
> energised across the line. Under some circumstances the inrush current  
> is only limited by the winding resistance.

And then Tom said:

> The thump you hear is the result of dozens of cycles of high  
> current, and often related directly to flux leakage in  
> transformers (and especially chokes with air gaps) rather  
> than any actual damaging surge. We aren't "charging" the  
> transformer, rather we are charging some capacitors  
> following the transformer (and heating some low resistance  
> filaments) and the charging current often saturates chokes.  
> None of that is a first cycle starting point problem cured  
> by starting at zero.

I think:

That's true but you can still hear a thump even when you power up an unloaded transformer. That's the flux leakage effect. It's not all secondary transient loads such as cold filaments or discharged caps. The transformer has its own transient behaviour. I will have to consult a textbook (it's been a long time) to comment further.

> Now if we were dumping the power mains directly through a  
> rectifier into a capacitor, the surge might eat up switches  
> and zero crossing start might be good. I wouldn't worry  
> about it with a transformer and especially a choke input  
> supply.

Absolutely correct!

Morris

-----



Message-ID: <00b501c544e1\$f3a47960\$6401a8c0@akorn.net>  
From: "Tom Rauch" <w8ji@contesting.com>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: A note on solid state relays  
Date: Tue, 19 Apr 2005 09:16:09 -0400  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

> That's true but you can still hear a thump even when you  
power up an  
> unloaded transformer. That's the flux leakage effect. It's  
not all  
> secondary transient loads such as cold filaments or  
discharged caps. The  
> transformer has its own transient behaviour. I will have  
to consult a  
> textbook (it's been a long time) to comment further.

Good point. We shouldn't confuse noise with component stress  
that might lead to failures.

It's certainly true an unloaded transformer or inductor can  
thump, but that effect isn't a single cycle effect either  
and it isn't excessive current.  
It most often is mechanical movement as iron shifts from the  
magnetic pull. I can't tell you how many times we had to  
reject batches of transformers because of winding form or  
lamination movement. Also steel chassis below or steel  
cabinet next to transformers can be a noise maker. Listen to  
how quiet a Valiant is outside the case.

But the entire effect is aggravated by load charging  
currents, since it is an imperfect leaky-flux world  
especially around chokes that must intentionally include an  
air gap in the flux path.

When you energize a transformer or inductor it has its own  
current limiting as the magnetic field builds.

As a matter of fact all this hysteria about inrush in large  
tubes is largely just hysteria. When the transformer is  
sized correctly inrush generally isn't an issue at all. Flux  
leakage and ESR take care of it all. Any who use monster 50  
amp transformers on 4-125A's and heavy leads might be asking  
for it!

> > Now if we were dumping the power mains directly through  
a  
> > rectifier into a capacitor, the surge might eat up  
switches  
> > and zero crossing start might be good. I wouldn't worry  
> > about it with a transformer and especially a choke input  
> > supply.  
>  
> Absolutely correct!

Opening the switch can be a bitch! (sorry, it rhymed)

-----  
Message-ID: <000f01c544e8\$f736eac0\$0200a8c0@ahome.net>  
From: "Mark Shaum" <k9tr@dtnspeed.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Boatanchor Keyer  
Date: Tue, 19 Apr 2005 09:06:21 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Pardon the sand-state query, but my favorite homebrew BA keyer has died after about 15 years or so of service. Would anyone happen to have a Curtis 8044ABM chip I could obtain to repair this critter? Near as I can tell there are zilch available from the various vintage transistor and IC vendors.

It's already been suggested I duplicate the logic using 6SN7's and 6H6's but I'll leave that for my retirement project. The 19 inch rackmount keyer.. :)

73! - Mark K9TR

-----  
Message-ID: <004001c544fe\$fd2d17e0\$0200a8c0@ahome.net>  
From: "Mark Shaum" <k9tr@dtnspeed.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Keyer Chip Located  
Date: Tue, 19 Apr 2005 11:44:00 -0500  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Thanks to all who responded so quickly to my query about the Curtis 8044ABM chip. It appears one has been located and I should be able to

replace my QRT one soon.

73! - Mark K9TR

-----  
Date: Tue, 19 Apr 2005 11:05:26 -0500  
From: David Stinson <arc5@ix.netcom.com>  
Subject: SCR-274N Gets "15 Minutes of Fame"  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-id: <42652C46.5000508@ix.netcom.com>  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii; format=flowed  
Content-transfer-encoding: 7bit

Just before the event,  
The SCR-274N I built for W5E was highlighted in the  
Shreveport Times (Louisiana). They had the color photo  
I posted on the binaries awhile back. Nice article.  
You can see the article (sans the photo) at:

<http://tinyurl.com/9xfeq>

Maybe we'll get a couple of more mil radio guys interested.

73 Dave S.

-----  
Message-ID: <426570AA.5E057229@comcast.net>  
Date: Tue, 19 Apr 2005 14:57:17 -0600  
From: "Herbert M. Rosenthal" <herbrose@comcast.net>  
MIME-Version: 1.0  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Up/down control for electronics  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Many consumer electronics items use a spring-loaded lever to control volume and other settings- such is the case with the volume control on my Honda car radio. Other items, such as TV remotes, use an up and a down button to set levels, select items on screen when programming, etc.

I imagine there is a dedicated chip (set?) for this function, but I have never seen reference to it, nor a construction article of any sort using it.

Having this capability would be useful to include in some of the gadgets I build, only not just for audio, but for a control voltage level setting to accomplish a certain function, i.e., hold the lever down and the 'output voltage' goes to a minus voltage; holding the lever up reverses this and

the 'output' goes to a positive voltage.

Hardly hollow state, but some BAer might be able to provide a reference.

Thanks,

Herb Rosenthal W5AN  
Albuquerque

-----  
To: Old Tube Radios <boatanchors@theporch.com>  
Cc: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: Up/down control for electronics  
MIME-Version: 1.0  
Message-ID: <OFF49017B1.66C13CC5-  
ON88256FE8.0078EF71-86256FE8.007A8CDD@philips.com>  
From: Brian K Harris <brian.k.harris@philips.com>  
Date: Tue, 19 Apr 2005 17:17:44 -0500  
Content-Type: multipart/alternative; boundary="=\_alternative 007A8CD886256FE8\_="

This is a multipart message in MIME format.

--=\_alternative 007A8CD886256FE8\_  
Content-Type: text/plain; charset="US-ASCII"

Herb,

The function of which you speak is often built into complex chips that are typically designed specifically for consumer applications like car radio, home stereo, television, etc. The chip merely polls the associated pins to which the switches are attached to see if there is a low and if the low is there long enough to take some action. Sometimes the action is to tell another chip to do something or sometimes it merely tell the chips itself to do something internally. These chips usually are microcontroller based and the programs in these chips are dedicated specifically to the job at hand so it's virtually impossible to use them in a homebrew application. That said, there are companies (my employer included) that makes devices that lend themselves to your intended application. For example, we have an audio amplifier (TDA8551) that has a trinary pin for doing up/down volume control adjustment. We also make other audio control devices (volume, tone, balance) and D/A converters that use a two wire serial bus (I2C Bus) for receiving control commands. The devices can be easily controlled by one of our small microcontrollers. Of course you would have to write the firmware that the microcontroller requires but I digress.....

Boat Anchor Content - many of these solid state audio devices can be used in front of and some even in back of the audio of our beloved boat anchors.

Brian K. Harris, Account Manager, South Central Region

Philips Semiconductors  
2140 Lake Park Boulevard, Suite 200  
Richardson, Texas 75080 USA

Office: 972 705-2484  
Mobile: 214-763-5977  
Fax: 972-705-2450  
Email: brian.k.harris@philips.com

"Herbert M. Rosenthal" <herbrose@comcast.net>

Sent by:

owner-boatanchors@theporch.com

2005-04-19 03:57 PM

Please respond to herbrose

To: Old Tube Radios <boatanchors@theporch.com>  
cc: (bcc: Brian K Harris/SVL/SC/PHILIPS)  
Subject: Up/down control for electronics  
Classification:

Many consumer electronics items use a spring-loaded lever to control volume and other settings- such is the case with the volume control on my Honda car radio. Other items, such as TV remotes, use an up and a down button to set levels, select items on screen when programming, etc.

I imagine there is a dedicated chip (set?) for this function, but I have never seen reference to it, nor a construction article of any sort using it.

Having this capability would be useful to include in some of the gadgets

I  
build, only not just for audio, but for a control voltage level setting to  
accomplish a certain function, i.e., hold the lever down and the  
'output voltage' goes to a minus voltage; holding the lever up reverses  
this and  
the 'output' goes to a positive voltage.

Hardly hollow state, but some BAer might be able to provide a reference.

Thanks,

Herb Rosenthal W5AN  
Albuquerque

--=\_alternative 007A8CD886256FE8\_  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

```
* * * * *
*      ---REMAINDER OF MESSAGE TRUNCATED---      *
*      This post contains a forbidden message format      *
*      (such as an attached file, a v-card, HTML formatting) *
*      Mail Lists at theporch.com only accept PLAIN TEXT      *
*      If your postings display this message your mail program *
*      is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *
```

--=\_alternative--

-----  
From: "Bill Hawkins" <bill@iaxs.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: RE: Up/down control for electronics  
Date: Tue, 19 Apr 2005 19:33:38 -0500  
Message-ID: <003e01c54540\$982c7100\$0500a8c0@darius.domain.actds1tmp>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Well, if all that's available are special chips that need to be  
controlled by a program, then try an 8 bit up/down counter and  
an 8 bit D/A converter. Feed the audio to the voltage reference  
and you will have an up/down volume control. Ah, you don't want  
a DAC with a built-in voltage reference unless you want the  
fixed voltage. And it won't be logarithmic...

Bill

-----Original Message-----

From: owner-boatanchors@theporch.com  
[mailto:owner-boatanchors@theporch.com]On Behalf Of Herbert M. Rosenthal  
Sent: Tuesday, April 19, 2005 3:57 PM  
To: Old Tube Radios  
Subject: Up/down control for electronics

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Thanks,

Herb Rosenthal W5AN  
Albuquerque

-----  
Date: Wed, 20 Apr 2005 11:48:32 +1000  
From: Morris Odell <morriso@vifm.org>  
Subject: RE: Up/down control for electronics  
To: Old Tube Radios <boatanchors@theporch.com>  
Message-id: <D02380C06383C847B2282343465930BE05889A@my.vifp.monash.edu.au>  
MIME-version: 1.0  
Content-type: text/plain; charset=us-ascii  
Content-transfer-encoding: 7BIT  
content-class: urn:content-classes:message

Take a look at

<http://www.aaroncake.net/circuits/volume.htm>

A search for "electronic potentiometer" or "digital potentiometer" or even a troll through a chip databook might help too.

Sorry for the d\*\*\*\*\* word ;-)

Morris

> -----Original Message-----

> From: owner-boatanchors@theporch.com

> [mailto:owner-boatanchors@theporch.com] On Behalf Of Herbert

> M. Rosenthal

> Sent: Wednesday, 20 April 2005 6:57 AM

> To: Old Tube Radios

> Subject: Up/down control for electronics

>

>

> Many consumer electronics items use a spring-loaded lever to  
> control volume and other settings- such is the case with the  
> volume control on my Honda car radio. Other items, such as TV  
> remotes, use an up and a down button to set levels, select  
> items on screen when programming, etc.

>

> I imagine there is a dedicated chip (set?) for this function,  
> but I have never seen reference to it, nor a construction  
> article of any sort using it.

>

> Having this capability would be useful to include in some of  
> the gadgets I build, only not just for audio, but for a  
> control voltage level setting to accomplish a certain  
> function, i.e., hold the lever down and the  
> 'output voltage' goes to a minus voltage; holding the lever  
> up reverses this and the 'output' goes to a positive voltage.

>

> Hardly hollow state, but some BAer might be able to provide  
> a reference.

>

> Thanks,

>

> Herb Rosenthal W5AN

> Albuquerque

>

>



-----  
Message-ID: <001901c54577\$1ae7f0c0\$61e47443@KB6NAX>  
From: "Arden Allen" <gumbear@pacbell.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: A note on solid state relays  
Date: Wed, 20 Apr 2005 00:02:14 -0700  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Two comments, Rodger: A zero-crossing triac type of relay (SSR) is no better than a mechanical relay at reducing turn-on surge. Current flows through a triac as close to 360 degrees as it's possible to get with a solid state device and that is probably 359.xxx degrees. The benefits of surgistors are highly over-rated anyway, IMHO.

Obviously RF was getting into your SSR and messing up the "firing" of the triac thus causing less than 360 degree conduction which produces fast rising current steps being delivered to the power transformer. The high speed edges just walk right through everything as you no doubt saw with the scope.

Arden Allen  
KB6NAX

-----  
Subject: FS: Old B&K Model 440 Cathode Rejuvenator Tester (CRT)  
From: Al Schapira <a.schapira@worldnet.att.net>  
To: Old Tube Radios <boatanchors@theporch.com>  
Content-Type: text/plain  
Message-Id: <1114018906.1847.109.camel@ADS1>  
Mime-Version: 1.0  
Date: Wed, 20 Apr 2005 14:00:18 -0400  
Content-Transfer-Encoding: 7bit

The following B&K tester is offered for sale.  
Asking \$15 plus shipping (approx 12 lbs packed) to a US address  
from 07042. Thanks for looking.

-Al Schapira, KC2HRH, a.d.schapira@worldnet.att.net

=====  
B&K Model 440 CRT Cathode Rejuvenator Tester, in black fabric covered wooden box, approx 14 x 8 x 5, 10 lbs. Case is slightly faded and worn at the corners. Inside is clean and fairly good condition. Has tube tester type meter with Good/Bad and numeric scales. Functionality unknown, no manual. Includes two umbilical cords with

seven adapters for various CRT bases. Includes original instruction card inside cover. I believe that this was used by TV shops to test and "rejuvenate", i.e. brighten, old picture tubes.

Untested, as is.

Pictures at

<http://home.att.net/~a.schapira/pix/BK440/pict0002.jpg>

<http://home.att.net/~a.schapira/pix/BK440/pict0003.jpg>

<http://home.att.net/~a.schapira/pix/BK440/pict0004.jpg>

<http://home.att.net/~a.schapira/pix/BK440/pict0005.jpg>

<http://home.att.net/~a.schapira/pix/BK440/pict0006.jpg>

<http://home.att.net/~a.schapira/pix/BK440/pict0007.jpg>

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End of BOATANCHORS Digest 3794

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